

ABSTRACT OF THE DISCLOSURE

Fusarium graminearum is a plant pathogen, attacking a wide range of plant species including corn (ear and stalk rot), barley, and wheat (head blight). *Fusarium* epidemics result in millions of dollars of losses in crop revenues. *Fusarium graminearum* infection in the cereals reduces both grain yield and quality. Mycotoxins are produced by many fungal *Fusarium* species and thus the grain becomes contaminated with these mycotoxins, such as the trichothecenes. The major trichothecene produced by *F. graminearum* is deoxynivalenol (abbreviated as DON, also known as vomitoxin). Trichothecenes are potent protein synthesis inhibitors and are quite toxic to humans and livestock. A yeast gene has been identified which confers upon yeast tolerant of the trichothecene, trichodermin. A corresponding plant gene has been prepared, which has been used to transform plants. These transformed plants have an increased resistance to *Fusarium* infestation.